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Total Number of Pages in This Submission

Application Number	10/066,187	
Filing Date	1/31/2002	
First Named Inventor	Steven Teig, et al.	
Group Art Unit	2825	
Examiner Name	Tat, B.	
Attorney Docket Number	SPLX.P0133	

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#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Steven Teig, et al.

Serial No.:

10/066,187

Filing Date:

1/31/2002

For:

METHOD AND APPARATUS FOR

ROUTING A SET OF NETS

# INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, applicants submit with this Information Disclosure Statement the attached Form PTO-1449, and copies of the documents listed in the 1449 form for consideration by the Examiner. The Examiner is requested to make these documents of record. Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

This Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to

04/23/2004 CCHAU1 00000104 501128 10066187 01 FC:1806 180.00 DA the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes

prior art to the subject invention.

This Information Disclosure Statement is submitted after receipt of a first Office Action

on the merits but before the Final Office Action. Accordingly, a fee is required. However,

Applicants note that on this day, April 21, 2004, Applicants have submitted another Information

Disclosure Statement in electronic form and paid the requisite fee along with this electronic

submission. See attached hard copy of electronic IDS and its fee transmittal. Therefore,

Applicants submit that no separate fee is required for this Information Disclosure Statement.

However, in the unlikely event that the Patent Office determines that additional fees,

extension and/or other relief is required, applicant petitions for any required relief including

extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions

and/or other fees due in connection with the filing of this document to Deposit Account No. 50-

1128 referencing SPLX.P0133. However, the Assistant Commissioner is not authorized to

charge the cost of the issue fee to the Deposit Account.

Dated: April 21, 2004

Respectfully submitt

Registration No. 39,585

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MFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	10/066,187
Filing Date	1/31/2002
First Named Inventor	Steven Teig et al.
Group Art Unit	2825
Examiner Name	Tat, B.
Attorney Docket Number	SPLX.P0133

			U	J.S. PATENT APP	LICATIONS	
Examiner* Initials	Cite No.1		Patent lication Attorney Docket Number	Name of Patentee or Applicant of Cited Document	Date of Filing MM-DD-YYYY	Related Application Data if any
	1.	10/066,060	SPLX.P0072	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	2.	10/066,160	SPLX.P0073	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	3.	10/066,095	SPLX.P0074	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	4.	10/066,047	SPLX.P0078	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	5.	10/061,641	SPLX.P0079	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	6.	10/066,094	SPLX.P0080	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
•	7.	10/076,121	SPLX.P0081	Steven Teig et al.	02-12-2002	Application with similar, but not identical, specification and drawing as the present application.
	8.	10/062,995	SPLX.P0105	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	9.	10/066,102	SPLX.P0106	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	10.	10/286,584	CDN.P0037	Steven Teig	10-31-2002	
	11.	10/335,087	CDN.P0038	Steven Teig et al.	12-31-2002	
	12.	10/335,239	CDN.P0039	Steven Teig et al.	12-31-2002	

Examiner	Date	
Signature	Considered	

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Sheet		2	of	9 Attorne	y Docket Number	SPLX.P0133
				U.S. PATENT API	PLICATIONS	
	13.	10/335,086	CDN.P0040	Steven Teig et al.	12-31-2002	

				1	FOREIGN PATE	NT DOCUMENTS					
Examiner* Initials	Cite No.1	No 1 Kind Code				Kind Code		Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
	14.	JP	11-296560		10-29-1999	Matsumoto et al.	with English translation of Abstract;				
	15.	JP	2000-082743		03-21-2000	Igarashi et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	1			
	16.	JP	64-15947		01-19-1989	Ouchi	with English translation of Abstract;				
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	18.	JP	04-000677		01-06-1992	Fujiwara et al.	with English translation of Abstract;				
	19.	JP	05-102305		04-23-1993	Sato	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	1			
	20.	JP	05-243379		09-21-1993	Kubota	with Japanese Patent Office's English translation of Abstract; and with English	1			

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	21.	JР	07-08640	07	03-31-1995	Miura		with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	1					
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		NON PATENT LITERATURE DOCUMENTS	
Examiner* Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
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Please type a plus sign (+) inside this box TM U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number **Application Number** 10/066.187 Substitute for form 1449A/PTO **Filing Date** 1/31/2002 ORMATION DISCLOSURE **First Named Inventor** Steven Teig et al. TATEMENT BY APPLICANT Group Art Unit 2825 (use as many sheets as necessary) **Examiner Name** Tat, B. SPLX.P0133 Sheet of 9 Attorney Docket Number NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, Examiner<sup>1</sup> тв serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. Initials 30. Hama, T. et al., Topological Routing Path Search Algorithm with Incremental Routability Test, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol. 18, No. 2, February 1999, pp. 142-150. Kobayashi, K. et al., A New Interactive Analog Layout Methodology based on Rubber-Band Routing, 31. UCSC-CRL-96-12, June 13, 1996. 32. Lim, A. et al, A Fast Algorithm To Test Planar Topological Routability, Technical Report 94-012, pp. 1-33. Lu, Y., Dynamic Constrained Delaunay Triangulation and Application to Multichip Module Layout, A Thesis for Master of Science, UC Santa Cruz, December 1991. 34. Maley, F.M., Testing Homotopic Routability Under Polygonal Wiring Rules, Algorithmica 1996, 15: 1-16. Morton, P. B. et al., An Efficient Sequential Quadratic Programming Formulation of Optimal Wire 35. Spacing for Cross-Talk Noise Avoidance Routing, UCSC-CRL-99-05, March 10, 1999.

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2 2004				Filing Date	1/31/2002
3 2004 INFORMATION DISCLOSURE STATEMENT BY APPLICANT				First Named Inventor	Steven Teig et al.
				Group Art Unit	2825
(use as many sheets as necessary)		Examiner Name	Tat, B.		
Sheet	5	of	9	Attorney Docket Number	SPLX.P0133
		ı	ION PATENT LI	TERATURE DOCUMEN	ITS
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<sup>\*</sup> EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁴ Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449A/PTO

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1/31/2002
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2825
Tat, B.
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INFU	EMENT BY			First Named Inventor	Steven Teig et al.		
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**Application Number** 10/066,187 Substitute for form 1449A/PTO Filing Date 1/31/2002 INFORMATION DISCLOSURE First Named Inventor Steven Teig et al. STATEMENT BY APPLICANT Group Art Unit 2825 (use as many sheets as necessary) Tat, B. **Examiner Name** SPLX.P0133 Sheet of Attorney Docket Number NON PATENT LITERATURE DOCUMENTS Soukup, J. et al., Maze Router Without a Grid Map, IEEE, 1992, pp. 382-385. Takashima, Y. et al, Routability of FPGAs with Extremal Switch-Block Structures, IEICE Trans. Fundamentals, vol. E81-A, No. 5, May 1998, pp. 850-856. Teig, S. The X Architecture: Not your Father's Diagonal Wiring, International Workshop on System Level Interconnect Prediction, pp. 33-37, April 2002. Thakur, S. et al., Algorithms for a Switch Module Routing Problem, 1994, pp. 265-270. 108. Theune, D. et al., HERO: Hierarchical EMC-constrained routing, 11/1992, IEEE pp 468-472. 110 Tollis, I. Techniques for Wiring in Non-Square Grids, pp. 66-69, May 1989. Urrutia, J., On the Number of Internal and External Visibility Edges of Polygons, Department of CS. University of Ottawa, ON, Canada, February 11, 1997. Wang, D., Novel Routing Schemes for IC Layout, Part I: Two-Layer Channel Routing, 28th ACM/IEEE Automation Conference, 1991, pp.49-53. Yan et al., Three-Layer Bubble-Sorting -Based Non-Manhattan Channel Routing, ACM Transactions on Design Automation of Electronic Systems, Vol. 5, No. 3, July 2000, pp.726-734. Zhou, H. et al., An Optimal Algorithm for River Routing with Crosstalk Constraints, 1996 114

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### **ELECTRONIC INFORMATION DISCLOSURE STATEMENT**

PAD Electronic Version v18 Stylesheet Version v18.0

> Title of Invention

Method and apparatus for routing a set of nets

**Application Number:** 

10/066187

\*10/066187\*

**Confirmation Number:** 

5277

First Named Applicant:

Steven Teig

Attorney Docket Number: SPLX.P0133

Art Unit:

2825

Examiner:

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# Signature

Examiner Name	Date	

APR 2 3 2004

#### **ELECTRONIC INFORMATION DISCLOSURE STATEMENT**

Electronic Version v18 Stylesheet Version v18.0

> Title of Invention

Method and apparatus for routing a set of nets

**Application Number:** 

10/066187

\*10/066187\*

Confirmation Number:

5277

First Named Applicant:

Steven Teig

Attorney Docket Number: SPLX.P0133

Art Unit:

2825

Examiner:

Binh C. Tat

Search string:

(6155725 or 6166441 or 6175950 or 6209123 or

6216252 or 6230306 or 6247167 or 6253363 or 6260179 or 6289495 or 6292929 or 6301686 or 6324674 or 6327693 or 6327694 or 6330707 or 6378121 or 6385758 or 6401234 or 6405358 or 6407434 or 6412097 or 6412102 or 6463575 or 6473891 or 6519751 or 6526555 or 6543043 or

6557145 or 6567967 or 6586281 or 6665852 ).pn.

#### **US Patent Documents**

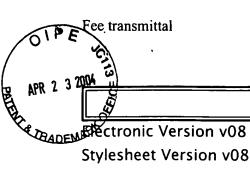
Note: Applicant is not required to submit a paper copy of cited US Patent Documents

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## Signature

Examiner Name	Date



#### **FEE TRANSMITTAL**

Stylesheet Version v08.0

Title of Invention

Method and apparatus for routing a set of nets

Application Number:

10/066187 \*10/066187\*

Date:

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First Named Applicant:

Steven Teig

Attorney Docket Number: SPLX.P0133

Art Unit:

2825

Examiner:

Binh C. Tat

### **TOTAL FEE AUTHORIZED \$180**

Patent fees are subject to annual revisions on or about October 1st of each year.

#### **BASIC FILING FEE**

Fee Description	Fee Code	Amount \$	Fee Paid \$
Submission Of Information Disclosure Stmt Fee	1806	180	180

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